

75th Air Base Wing



Refrigerant Risk Management

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Overview



75TH AIR BASE WING

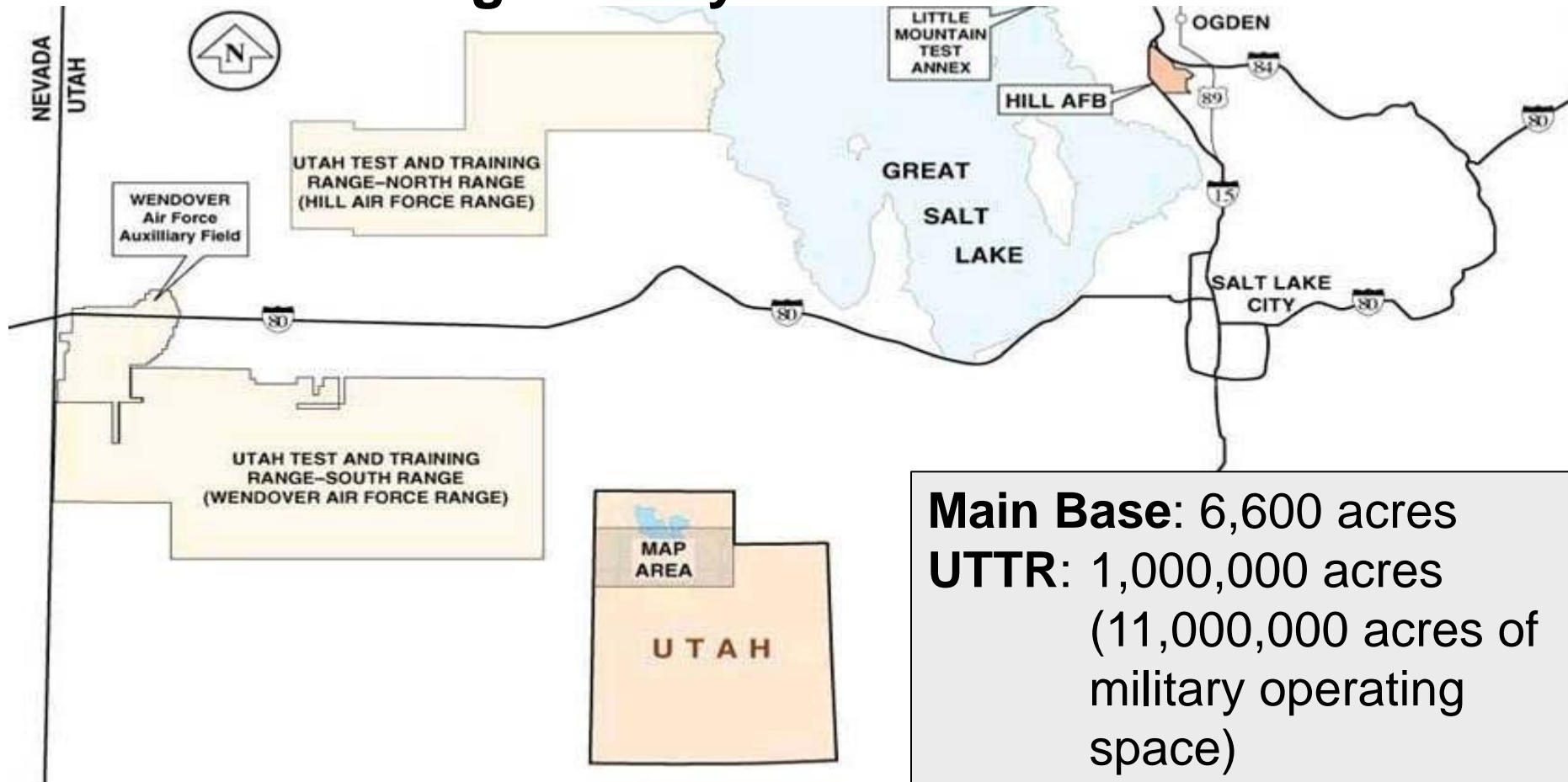
- **Background**
- **Issue**
- **Solution**
- **Centralized Management**
- **Lessons Learned**
- **Summary**



Background: Hill AFB

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■ Hill AFB—a large facility:



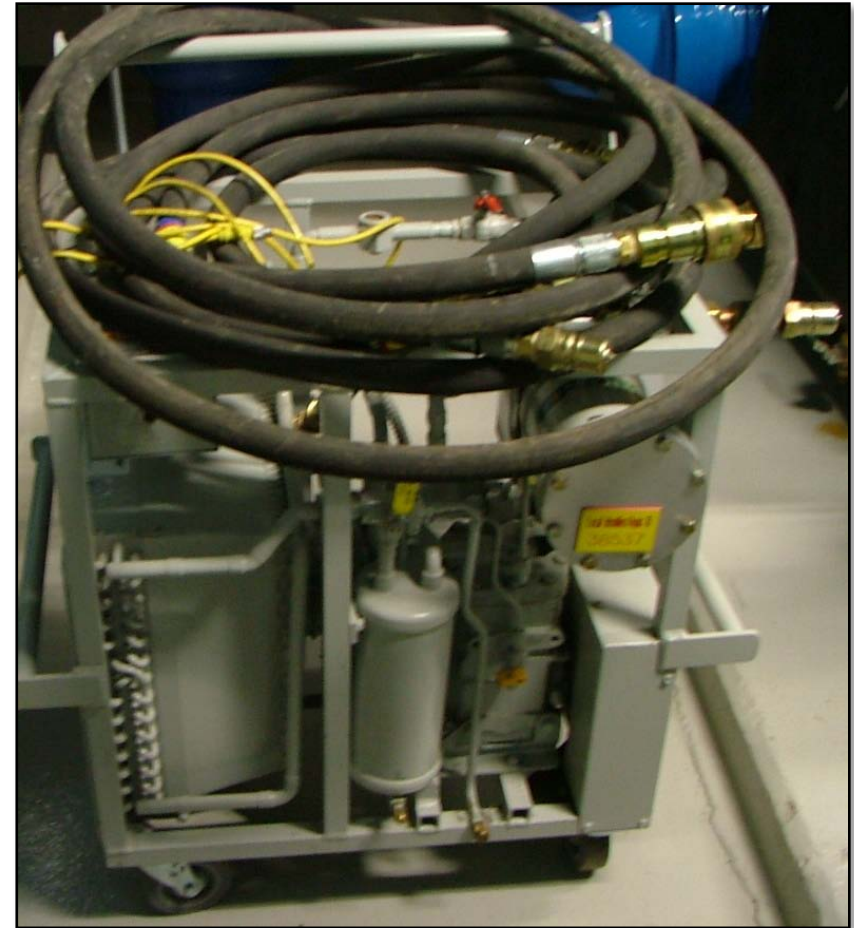
Main Base: 6,600 acres
UTTR: 1,000,000 acres
(11,000,000 acres of military operating space)



Background: Hill AFB ODS

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- **Appliances subject to 40 CFR 82**
 - Over 300 appliances > 50 lbs
 - Over 1000 appliances < 50 lbs
 - 16 refrigerant recycling processes
- **Largest units:**
 - Two 1,200 lb units supporting mission-critical applications



Hill AFB-owned refrigerant recycling unit



Background: Regulatory Drivers



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- **Code of Federal Regulations (CFR) Title 40, Part 82, “Refrigerant Recycling and Emissions Reduction”:**
 - Addresses the handling, recycling and disposal of ODS-containing appliances
- **Hill AFB Title V Air Quality Operating Permit:**
 - Requires Hill AFB to adhere to 40 CFR 82 requirements
- **Amendments to Title 40, Part 82 Proposed on 15 Dec 2010**
 - EPA is revising the rule to ensure that facilities repair appliances and don’t just keep adding refrigerant for the same issue repeatedly



Issue

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- **Managing ODS-possessing organizations dispersed throughout the base**
- **Disconnected data systems used by these various organizations to capture ODS data**
- **Managing the activities of off-base ODS maintenance contractors**
- **Common ODS violations:**
 - **Inadequate recordkeeping associated with equipment/technician certifications**
 - **Inadequate recordkeeping involving servicing details, leak checks, and leak rates**



Solution

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- **Improve compliance monitoring, record keeping, and reporting of Ozone Depleting Substances (ODS) at Hill AFB by:**
 - **Add language to contracts regarding compliance with ODS requirements**
 - **Implementing centralized refrigerant management application**
 - **Reducing the risk of non-compliance involving recordkeeping for ODS**
 - **Meet software certification and accreditation requirements**
 - **Ensure fast records availability for regulators**
 - **Conduct periodic audits of ODS equipment**



Centralized Management: Selection of Data System



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■ Application of APIMS:

- The logical choice for comprehensive ODS management
- Database infrastructure already in place—just needed modifications for ODS
- The official air quality data system for the Air Force
 - In use at over 60 U.S. military installations
- Managed by the Department of Defense Information System Agency



Centralized Management: APIMS Enhancements



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- **APIMS will house:**
 - **Equipment model numbers and serial numbers**
 - **Charge capacities**
 - **Service dates**
 - **Net refrigerant loss**
 - **Annualized leak rates**
 - **Amounts of refrigerant recovered and added**
 - **Types of refrigerants used**
 - **Technicians' names**

Create ODC Usage Record

Equipment: *	<input type="text"/>
Model #:	<input type="text"/>
Serial #:	<input type="text"/>
Capacity:	<input type="text"/>
Last Service Date:	<input type="text"/>
Technician: *	<input type="text"/>
Refrigerant: *	<input type="text"/>
Recovered: * (in lbs)	<input type="text"/>
Added: * (in lbs)	<input type="text"/>
Net Loss: (in lbs)	<input type="text"/>
Service Date: * yyyy/mm/dd	<input type="text"/>
Repair Description:	<input type="text"/>
Validate Net Loss?	<input type="radio"/> Yes <input type="radio"/> No
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	



Centralized Management: Implementation



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- Hill AFB data collection and management efforts include:
 - Inventorying equipment subject to Title VI requirements
 - Archiving refrigeration compliance information
 - Technician certification
 - Maintenance information
- Data collection methods:
 - Using existing appliance information mined from disconnected systems
 - Conducting inspections and research to fill in gaps



Centralized Management: Implementation



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- **Inventory results:**
 - **1,350 refrigerant-containing appliances identified**
- **Greatest benefit of inventory:**
 - **Identifying appliances with multiple circuits and the refrigerant charge of each circuit:**
 - **Enables Hill to identify circuits > 50 lbs. charge subject to leak rate requirements**



Multi-Circuit Industrial
Cooling System at Hill AFB



Centralized Management: Inspections



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- Hill AFB improvements to APIMS for ODS management include:
 - Increased inspection frequency for refrigerant recovery equipment from annually to semi-annually
 - Improved checklists for ODS source inspections
 - Identification of refrigerant-containing equipment maintenance contractors to ensure compliance with 40 CFR 82
 - Identification of construction projects with new equipment subject to 40 CFR 82



Lessons Learned--Risk Reduction



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■ ODS compliance risks:

- Maintenance and repair contractors
- Leak rate calculation and reporting
- New/Modified appliances

■ By improving ODS recordkeeping, the AF-approved air quality data management system will reduce risk



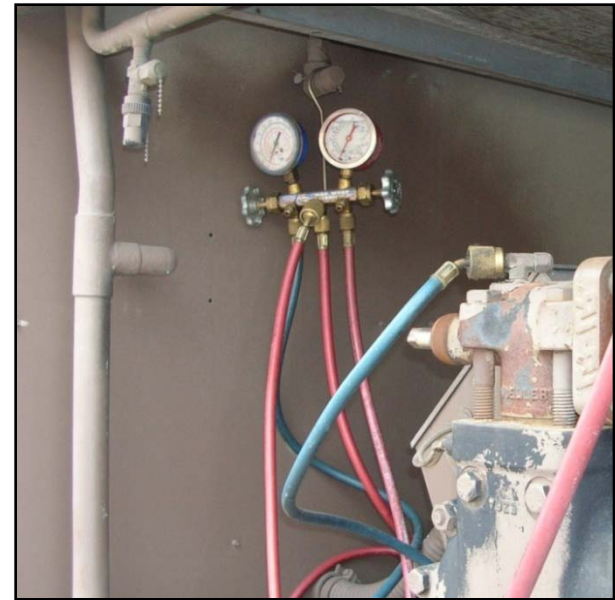
Convenience Store Cooler



Benefits and Results

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- The improvements will support:
 - Leak rate recordkeeping and reporting
 - 5-year records archive:
 - Technician credentials
 - Equipment certifications
 - Equipment maintenance logs
 - Repair reports



Air Conditioning Repair in Progress



Summary

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- EPA is cracking down on ODS non-compliance
- There are many compliance risks associated with ODS
- To improve ODS data management, Hill AFB is improving their air data management system
- The AF-approved air quality data management system will improve recordkeeping and ease reporting for ODS



Questions?



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BE AMERICA'S BEST



Background: Regulatory Drivers



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- **Montreal Protocol of 1987:**
 - Intent to cease production of ODS
 - Incorporated into Clean Air Act (CAA)
- **Title VI of the CAA 1990 amendments, “Stratospheric Ozone Protection”:**
 - Encourages using safer chemicals
 - Requirements incorporated into 40 CFR 82



Hill AFB ODS Background

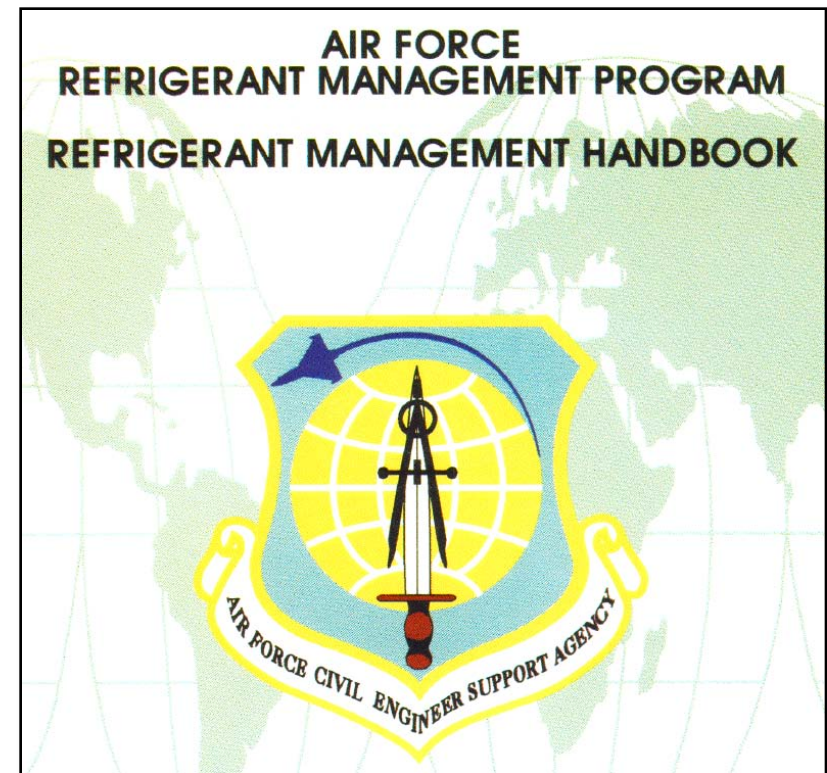


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- ODS Compliance Drivers, cont'd:

- AFD-070613-041, *Air Force Refrigerant Management Handbook* does NOT address:

- Recent Green House Gas (GHG) inventory regulations
- EPA's Significant New Alternatives Policy (SNAP) covering phase-out and alternative products



AFD-070613-041



Hill AFB ODS Background



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- **Nation-wide increased focus on ODS compliance during EPA multi-media inspections**
- **Common ODS violations:**
 - **Inadequate recordkeeping associated with equipment/technician certifications**
 - **Inadequate recordkeeping involving servicing details, leak checks, and leak rates**
- **Air Force Material Command initiated Notice to Airmen (NOTAM):**
 - **Prompted facilities to proactively gather data to illustrate ODS compliance in case of inspection**



Improving ODS Procedures

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- **Partially in response to the NOTAM, Hill AFB data collection and management efforts include:**
 - **Inventorying certain equipment subject to Title VI requirements**
 - **Creating a refrigerant leak rate calculation algorithm, and archiving refrigeration technician certification documents in the AF-approved air quality data management system**
- **Data collection methods:**
 - **Using existing appliance information**
 - **Conducting inspections and research**